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ABSTRACT

The concept that teacher beliefs about future student achievement may actually influence the subsequent performance of students provides the basis for a model of teacher expectation communication which uses attribution theory as explanatory links in the communication process. These model links were tested in a two-year study involving 16 third-, fourth-, and fifth-grade classrooms in 5 schools, from which 12 students from each classroom were studied. The frequency of appropriate and inappropriate student responses and of teacher praise, criticism, and ignoring of these responses was recorded at observations throughout the year; teachers also provided attributions for the students' successes and failures. Relations between success attributions and praise, and failure attributions, criticism, and ignoring were investigated. Teachers who used more criticism per interaction cited internal stable causes less often and cited immediate effort causes more often for student failure. Teachers who were freest with praise attributed successes least often to external teacher-related factors. The most freely praised students experienced successes least often due to internal stable causes and most often due to teacher-related causes. Data generally supported the expectation communication model. (NRB)

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VERBAL BEHAVIORS AS MEDIATIONS OF TEACHER EXPECTATION EFFECTS

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In the late 1960's, the fields of social and educational psychology found an intersection which generated enormous professional and public interest. Involved was the possibility that teacher beliefs about student performance could operate as what Merton (1957) called self-fulfilling prophecies. More specifically, interest was taken in whether teacher beliefs about future student achievement could actually influence how students eventually performed. The most visible investigation into the teacher prophesy was Rosenthal and Jacobson's (1968) Pygmalion in the Classroom.

By the early 1970's, this intersection had essentially disappeared. Social psychologists interested in the educational context had substituted causal attributions as the cognition of choice (Weiner and collegues, 1971) and had returned to the more traditional workplace, the laboratory. Educational psychologists, meanwhile, maintained a keen interest in expectation effects and, for the most part,continued to research the question in naturalistic settings.

The overriding purpose of the efforts I am about to describe has been the reintegration of social theory and educational research. Specifically, attribution theory is used to provide the explanatory links needed to make the expectation communication process understandable. To begin, a model for teacher expectation communication will be presented which uses attribution theory and concepts as explanatory links in the communication process (cf. Cooper, 1979). Then, a set of data will be presented which

addresses both the communication process and the generality of attribution theory to in-class, face-to-face, teacher-student relations.

A Model for Teacher Expectation Communication

Figure 1 summarizes how the expectation process might proceed. The model begins with the contention that teachers form differential expectations for student performance. The fact that performance expectations vary is beyond argument. The point is made here to insure that we begin with the teacher's "raw data" and that the process' non-recursive nature is made explicit.

The model next proposes that, not only do teachers form differential perceptions of students, but they also cognitively distinguish between classroom interaction contexts. Specifically, classroom situations differ in the amount of personal control they allow a teacher, and teachers may be aware that such differences exist. In teacher-initiated interactions, for instance, the teacher has chosen the question and the student who is to respond. In student-initiated interactions, on the other hand, the child has at least phrased the question and has determined to some extent that he or she will be involved. Presumably, then, most teachers will feel the greatest degree of personal control over what an interaction will be about and when it will occur when they themselves are initiators.

The magnitude of situational distinctions in control should depend on student chara eristics as well. In particular, high expectation students are probably viewed by teachers as generally more controllable than low expectation students. Control of low

expectation students may be more situationally dependent. Teachers may feel their own initiations toward slows provide perceptibly more control for themselves than when slow students do the initiating. More important, teachers may believe that the more control over slow students a context affords them, the more likely it is that the exchange will be fruitful.

This personal control notion provides the link between expectations and observed patterns of classroom feedback and climate. Specifically, teachers can maximize control over slow students by inhibiting slows' initiations. Such a strategy would entail the use of simple reinforcement principles. The teacher increases personal control through the creations of an unrewarding socioemotional environment and the relative infrequent use of praise and freer use of criticism in interactions with lows. Work by Rosenthal (1974) and by Brophy and Good (1974) indicates that such expectation differences in feedback and climate do exist in samples of classrooms.

The use of feedback and climate to control interactions has other implications, however. A control strategy means high and low students are evaluated using different contingencies. Some teachers may tend not to praise strong efforts from lows because praise will reduce future personal control by encouraging slow student initiations. Teachers may also tend to be more critical of weak efforts from lows since criticism increases future control. In evaluating highs, teachers may dispense praise and criticism more dependent on exhibited effort, since future control of highs' behavior is less of an issue. As has been argued by

Cooper and Baron (1977; 1979), this differential contingency hypothesis has implications for attribution theory. Attribution theory proposes that reinforcement is primarily a function of perceived effort since this internal but unstable cause implies future behavior can be shaped. The communication model however, implies that in face-to-face classroom situations the use of reinforcement as a control device supersedes its use as an indicant of effort. Reinforcement will be used by a teacher as an aid in classroom management until the teacher believes students will behave in a satisfactory manner without it. Only then will reinforcement use reflect the contingency prescribed by broader social values namely that strong effort is good and weak effort bad. The empirical demonstration I will describe shortly addresses the question of what attributions covary with in-class reinforcement.

It is argued, then, that negative climate and feedback patterns for low expectation students increase teacher control over when interactions with these students will occur. However, the control strategy also means lows will seek less interaction with the teacher and teacher feedback to lows will be less effort-contingent than feedback to highs. The sustaining of low expectation student performance is viewed to be a result of these different feedback contingencies.

Numerous studies report that students who are high in achievement motivation believe that effort and performance outcome covary (e.g., Kukla, 1972). They believe the harder they try the more likely they are to succeed. Students low in achievement

motivation perceive less effort-outcome covariation. No matter how hard they try, these students perceive themselves as less able to influence the outcomes of their performance. This perception on the part of low expectation students may be an accurate reflection of their classroom environment. A greater use of feedback by teachers to control interactions with lows may lead to a lesser belief on their part that effort can bring success.

To complete the expectation communication process, the effects of perceived noncontingent reinforcement need to be stated. Little perceived effort-outcome covariation appears to lead to negative affect and attitudes towards tasks presented, less persistence in the fact of failure, and finally, a greater incidence of failure. With the translation of student beliefs into student performance the expectation communication model is completed.

Method

We have recently finished a two-year study which attempted to test most of the model links in a single sample of classrooms. I would like to refer to a set of data from this study which asks the question "Do teacher attributions correlate with the use of affective feedback, and if so, are the attribution-feedback relations different for students at different expectation levels?" The data involved was obtained from sixteen third, fourth and fifth grade classrooms, with twelve students studied in each class. The sixteen classrooms were drawn from five schools serving mostly white, middle and lower middle class families. Each classroom was observed for about eight hours at three times of the

school year, during Fall, Winter and Spring. Among many behaviors observed and recorded were the frequency of student appropriate and inappropriate responding and the frequency of teacher praise, criticism, and ignoring of these responses. At three corresponding times during the year the teachers were asked to provide causal attributions for the observed student's successes and failures. In the fashion described by Cooper and Burger (1980) teachers provided open-ended attributions. They then assigned percentages to each cause dependent on how frequently the attribution explained the student's performance. Causes were then placed by two coders into one of eleven categories, as shown in Figure 2. For the analyses that follow, these eleven categories were reduced to five more substantive types. Thus, each of the twelve students in each class had ten percentage scores, with five related to success and five to failure.

To investigate the relations between success attributions and praise, classrooms were grouped according to whether the teacher used a relatively large amount or a relatively small amount of praise per appropriate response. That is, teacher's average praise usage was first residualized using the average appropriate responses in the classroom as predictor. Residuals were then used to assign teachers to high and low praising groups. This variable served as a between-classrooms factor. A similar procedure was used to classify students within each classroom into relatively high and low praise-receivers. Also: two within-class expectation groups were formed. The six students who teachers ranked highest on verbal ability and general potential formed the high

expectation group and the six ranked lowest formed the low expectation group. For failure attribution analyses, criticism and ignoring of responses provided a composite residualized measure to place teachers and students into groups. The residualization procedure means comparisons are between the relative likelihood, on any single response, of giving or receiving affect.

In essence, then, students were categorized as to (1) whether their teacher generally used more or less praise and criticism than other teachers, (2) whether they received generally more or less praise or criticism than their classmates, and (3) whether their teacher had relatively high or low expectation for them. This meant one between- and two within-class distinctions could be tested. The analyses of the attribution data were conducted separately for the three times of the school year. This was done so that classrooms and students could be reclassified at each time to increase power. Finally, a rather complicated scheme was used to decide what results were worthy of reporting. To address all the relevent issues would consume most of my time, so if interest is strong, I can discuss these later.

Results

Between-Classroom Relations. The analyses of attributions for successful outcomes revealed few noteworthy between-class relations. Causal citations and the teacher's general frequency of praise dispensation were essentially unrelated, though two categories ought to be mentioned. These are presented in Table 1. In the Fall, teachers who used more praise cited internal stable factors as the cause of their students' performances more often

than did low praise users. However, this tendency was not as pronounced in the Winter and was reversed in the Spring. Only one causal category for success attributions produced a consistent direction of relation throughout the school year. Teachers who cited external teacher-related factors as more often causing their students successes used less praise than low perceived -involvement teachers. The negative relation between general teacher praising and perceived personal involvement in outcomes was found in the Fall, Winter and Spring, but the relation never reached the status of a statistical trend.

The between-classroom effects proved more robust for failure attributions and criticism. Table 2 presents the means underlying two apparent relations between teachers' general criticism usage and their causal perceptions. Specifically, teachers who used the most criticism felt students failures were less often caused by deficiencies in internal stable factors and more often caused by a lack of immediate effort. The immediate effort category means in Spring were not consistent with this conclusion. In general, however, the internal stable and immediate effort results are supportive of the achievement attribution model.

Within-Classroom Relations. Several relations emerged involving attributions for success and whether or not a student received more or less praise than his or her classmates. Surprisingly, the relation between immediate effort and praise displayed in Table 3 was opposite to that predicted by attribution theory. Students who received the most praise were least likely to have immediate effort cited as the cause of their successes, though the relation approached significance only in

Spring. Also unpredicted were a main effect and interactions involving the external teacher-related category. The underlying means are presented in Table 4.

First, and in general, those students whose successes were seen by their teachers as more often caused by teacher-related factors were also the students who received the most praise. This trend was apparent in Fall and Winter with consistent means in Spring. The significant interaction revealed that the strength of this within-class relation may be mediated by the teacher's expectation for the student. At all three times of the school year, low expectation students showed the relation between teacher causes and praise to a greater degree than did high expectation students. The interaction reached significance only in Winter, however. Thus, if praise in classrooms is dependent on high teacher involvement, this may be more true for low than high expectation students.

The analyses also revealed several expectation main effects and one cross-level interaction. These are of only tangential interest to us here so their specifics will be passed over to save time.

Discussion

In sum, then, this study produced quite a few interesting findings. With regard to variation among classrooms, it was found that teachers who used relatively more criticism per interaction were those who less often cited internal stable causes and more often cited immediate effort causes for student failure. Also, teachers who were freest with praise were those

who least often reported successes were due to external teacher-related factors. These results are perfectly consistent with achievement attribution theory as described by Weiner and collegues (1971).

The results pertaining to within-classroom processes were quite different, however. Students who were most freely praised were those whose successes were least often due to internal stable causes and most often due to teacher-related causes. This last relation is opposite to that found for the same attributions at the between-class level. The more frequently a student's successes were seen as implying a positive teacher influence, the more freely the student was praised, relative to classmates. In addition, the strength of this relation was mediated by the teacher's expectation for the student's performance. The degree to which praise and teacher-related causes covaried was greater for low than high expectation students.

From this data, then, what conclusions can be drawn about attribution theory and expectation communication? In general, the results seem to clearly support the notion that feedback is effort-contingent when teacher average feedback use is at issue. This seems reasonable, since these averages may not be responsive to the daily requirements of classroom management. When one examines how teachers distribute reinforcement within a classroom, however, there is no evidence that these deviations from the mean are effort-related. Rather, students whose causes for success most often imply the teacher has had a positive influence are given freest praise.

The data also generally supported the expectation communication model. In a manner perhaps even stronger than suggested by the model, a teacher concern with personal control emerged from the data. The model proposed that high expectation student reinforcement might be more effort contingent than reinforcement to lows. This relation did not appear but another, potentially more supportive relation, did emerge. It was found that low expectation student feedback may be more contingent than high's feedback on following teacher directions and working at appropriate tasks. If this is the case, lows may be learning that their successes are caused more often than highs successes by help from and obedience to the teacher. Clearly, this kind of cognition would lead to the same distinction in sense of personal control between highs and lows predicted by the expectation model. Ultimately, then, we could predict a sustaining of different levels of achievement for highs and lows based on this different teacher-reinforcement contingency.

References

Brophy, J. & Good, T. Teacher-student relationships: Causes and Consequences. New York: Holt, Rinehart and Winston, 1974.

Cooper, H. Pygmalion grows up: A model for teacher expectation communication and performance influence. Review of Educational Research, 1979, 49 (3), 389-410.

Cooper, H. & Baron, R. Academic expectations and attributed responsibility as predictors of professional teachers' reinforcement behavior. Journal of Educational Psychology, 1977, 69 (4), 409-418.

Cooper, H. & Baron, R. Academic expectations, attributed responsibility and teachers' reinforcement behavior: A suggested integration of conflicting literatures. Journal of Educational Psychology, 1979, 71 (2), 274-277.

Cooper, H. & Burger, J. How teachers explain students' academic performance: A categorization of free response academic attributions. In press, American Educational Research Journal.

Kukla, A. Attributional determinants of achievement-related behavior. Journal of Personality and Social Psychology. 1972,21, 166-174.

Merton, R. K. Social theory and social structure (Rev. Ed.). New York: The Free Press, 1957.

Rosenthal, R. On the social psychology of the self-fulfilling prophesy: Further evidence for Pygmalion effects and their mediating mechanisms. New York: MSS Modular Publications, 1974.

Rosenthal, R. & Jacobson, L. Pygmalion in the classroom: Teacher expectation and pupils' intellectual development. New York: Holt, Rinehart and Winston, 1968.

Weiner, B., Frieze, I., Kukla, A., Reed, L., Rest, S. & Rosenbaum, R. Perceiving the causes of success and failure. New Jersey: General Learning Press, 1971.

Figure 1

A Model for Expectation Communication and Behavior Influence

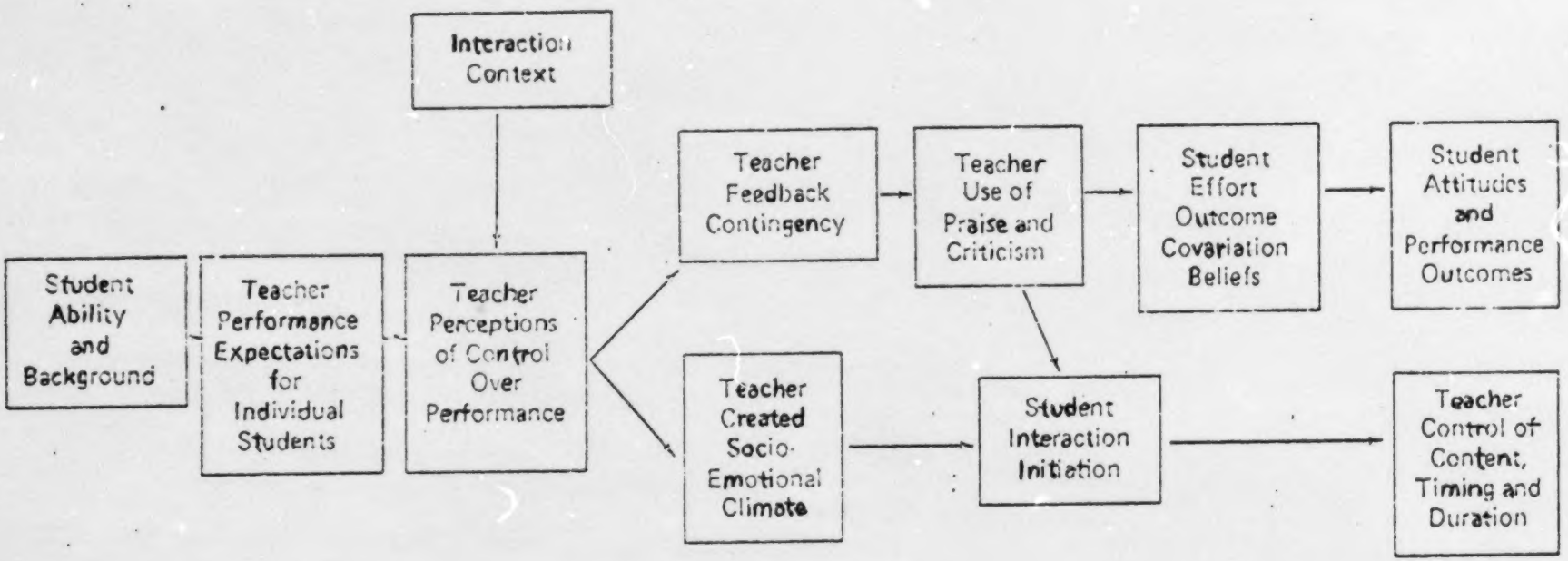
Interaction Context
Student Ability and Background
Teacher Performance Expectations for Individual Students
Teacher Perceptions of Control Over Performance
Teacher Feedback Contingency
Teacher Use of Praise and Criticism
Student Effort Outcome Covariation Beliefs
Student Attitudes and Performance Outcomes
Teacher Created Socio-Emotional Climate
Student Interaction Initiation
Teacher Control of Content, Timing and Duration

Figure 2

Categories Used to Relate Teacher Attributions and Affective Feedback

I. Attribution Categories

1. Internal Stable Causes
   - Ability
   - Previous Experience
   - Acquired Characteristics (habits, attitudes, self perception)

2. Stable Effort Causes
   - Stable Effort
   - Interest in the Subject Matter

3. Immediate Effort Causes
   - Immediate Effort
   - Attention

4. Teacher-Related Causes
   - Directions and Instructions
   - Task

5. Other External Causes
   - Family
   - Other Students

II. Affective Feedback Categories[1]

Students' Relative Reception of Affective Feedback Following a Response

Teachers' Relative Use of Affect Following a Student Response		High		Low	
		High Teacher Expectation	Low Teacher Expectation	High Teacher Expectation	Low Teacher Expectation
	High				
	Low				

Note. 1. Teachers and students were categorized separately for praise and criticism and for each time of the school year.

Table 1

Between-Classroom Relations
Involving A Teacher's Average Use of Praise
and Average Citation of Different Causes for Success

% of Student Successes Attributed to:		Teacher's Use of Praise: Less Than Other Teachers	Teacher's Use of Praise: More Than Other Teachers
Internal-Stable Causes (ability; previous experience; acquired characteristics)[1]	Fall	28.9	46.4
	Winter	32.1	34.0
	Spring	33.4	29.5
Teacher-Related Causes (followed directions; good instruction; appropriate tasks)[2]	Fall	13.7	9.5
	Winter	14.8	8.2
	Spring	19.6	14.2

Notes. 1. At all three times of the school year, teachers who used relatively more praise (per appropriate student response) were also those who most often cited internal stable causes for their students' successes. In winter, this relation approached significance ($F(1,14)=2.44$, $p < .15$).

2. At all three times of the school year, teachers who used relatively less praise were also those who most often cited external teacher-related causes for their students' successes. The relation never approached significance.

Table 2

Between-Classroom Relations
Involving a Teacher's Average Use of Negative
Feedback and Average Citation of
Different Causes for Failure

% of Student Failures Attributed to:		Teacher's Use of Negative Feedback: Less Than Other Teachers	More Than Other Teachers
Internal-Stable Causes (lack of ability; inexperience; bad habits and attitudes)[1]	Fall	20.3	9.8
	Winter	29.4	13.9
	Spring	34.0	14.9
Immediate Effort Causes (lack of attention; not being prepared for the task)[2]	Fall	37.3	47.6
	Winter	34.7	60.0
	Spring	38.0	35.3

Notes. 1. At all three times of the school year, teachers who used relatively less negative feedback (per interaction) were also those who most often cited internal stable causes for their students' failures (Fall $F(1,14)=2.75$, $p < .13$; Winter $F(1,14)=4.10$, $p < .07$; Spring $F(1,14)=3.43$, $p < .09$).

2. At all three times of the school year, teachers who used relatively more negative feedback were also those who most often cited lack of immediate effort as the cause for their students' failures. The relation was statistically significant in Winter ($F(1,13)=4.70$, $p < .05$). The Spring means were not consistent with the finding.

Table 3

Within-Classroom Relations
Involving a Teacher's Relative Use of Praise
Toward Different Students and the Teacher's Citation
of Different Causes for the Student's Success

% of Student's Successes Attributed to:		Student's Reception of Praise: Less Than Other Students	More Than Other Students
Immediate Effort (paying attention; being prepared for the task)[1]	Fall	26.7	24.2
	Winter	33.6	32.5
	Spring	28.3	22.8

Note. 1. At all three times of the school year, students who were praised relatively more (per appropriate response) than their classmates were those whose successes were least often seen as caused by immediate effort factor. In Spring, this relation approached significance ($F(1,14) = 3.01$, $p < .11$).

Table 4

Within-Classroom Relations Involving a Teacher's Relative Use of Praise Toward Different Students, the Teacher's Relative Expectation for Students and the Teacher's Citation of Different Causes for Student Success

% of Students' Successes Attributed to:		Teacher's Expectation for the Student: Higher Than Other Students — More Praise Than Other Students	Higher Than Other Students — Less Praise Than Other Students	Lower Than Other Students — More Praise Than Other Students	Lower Than Other Students — Less Praise Than Other Students
Teacher-Related Causes (followed directions; good instruction; appropriate tasks)[1]	Fall	5.23	4.06	21.94	15.21
	Winter	2.92	0.67	30.01	11.71
	Spring	11.40	11.25	25.08	20.04

Note. 1. At all three times of the year, those students whose successes were seen by their teachers as more often caused by teacher-related factors were also the students who received most praise. The relation was significant in Fall ($F(1,14)=3.20$, $p < .10$) and Winter ($F(1,13)=9.68$, $p < .01$). In addition, low expectation students showed the relation to a greater extent than high expectation students at all three times of the school year, with a significant interaction present in Winter ($F(1,14)=11.29$, $p < .005$).